



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/524,472	02/11/2005	Jurgen Meyer	032301.410	6924
25461 7590 07/13/2007 SMITH, GAMBRELL & RUSSELL SUITE 3100, PROMENADE II 1230 PEACHTREE STREET, N.E. ATLANTA, GA 30309-3592			EXAMINER AHMED, SHEEBA	
			ART UNIT 1773	PAPER NUMBER
			MAIL DATE 07/13/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/524,472	Applicant(s) MEYER ET AL.	
	Examiner Sheeba Ahmed	Art Unit 1773	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 19 June 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response After Final Rejection and Response to Arguments

1. The Response After Final rejection submitted on June 19, 2007 has been entered in the above-identified application. Applicants arguments with regards to the rejection of claims 1-14 under 35 U.S.C. 102(b) as being anticipated by Hartmann et al. (US 5,959,005) and the rejection of claims 1, 5, 6, and 15-17 under 35 U.S.C. 102(b) as being anticipated by Bock et al. (US 6,020,419) have been found persuasive. Therefore, the rejections have been withdrawn. However, upon further consideration, new grounds of rejection are made in view of Gunther et al. (US 2002/0037936).

Prosecution is hereby re-opened. Any inconvenience to the Applicants is regretted. Claims 1-17 are pending.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-14 are rejected under 35 U.S.C. 102(b) as being anticipated by Michael et al. (US 2002/0037936).

Michael et al. (2002/0037936) disclose hydrophobic, pyrogenically produced silica having a tamped density of 55 to 200 g/l and which are produced by hydrophobizing pyrogenically produced silica and then compacting it. The silica may

Art Unit: 1773

be used for the production of dispersions (See Abstract). Compaction can be performed by means of a roller compactor or a belt filter press. The hydrophobic, pyrogenically produced silica can be, for example, the silicas known as: Aerosil (these are commercially available products from Degussa Huls AG). The hydrophobic, pyrogenically produced silica having a tamped density of 55 to 200 g/l, as disclosed by Michael et al., result in distinctly lower transportation costs as a result of the higher tamped density of the silica. Once dispersed, the silica is in the form of relatively small aggregates and results in better dispersion and thus exhibit a lower Grindometer value. Both UV transmission transparency and visual transparency of the dispersions are distinctly improved by use of such silica. Furthermore, the dispersions containing these silicas exhibit distinctly increased stability because the tendency towards settling is distinctly lower (see Paragraphs 8-19). With regards to the limitation that the silica has dimethylsilyl and/or monomethylsilyl groups thereon and the limitations of BET surface area, size of primary particles, pH value, carbon content %, and the DBP value %, the Examiner takes the position that such limitations are inherently present in the silicas taught by Michael et al. given that these silicas are obtained from Degussa and are hydrophobic fumed silica treated with dimethyldichlorosilane.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

Art Unit: 1773

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bock et al. (US 6,020,419) in view of Nargiello et al. (US 6,193,795).

Bock et al. disclose a transparent coating composition comprising a binder and nanoscale primary particles (Column 2, lines 61-64). Pyrogenic silicas are preferably used as the particles and surface modified silicas are particularly preferred. The surface is modified with agents such as hexamethylsilazane or dimethyldimethoxysilane (Column 3, lines 56-65). Suitable binders include polyurethanes (Column 4, lines 8-19). The Examples show that the transparent coatings may be applied to steel sheets or aluminum sheets (Column 8, lines 24-26).

Bock et al. do not teach that the treated pyrogenic silicas are further structurally modified.

However, Nargiello et al. disclose a method of producing a low structure pyrogenic metal oxide filler by subjecting pyrogenically produced metal oxide agglomerates and aggregates selected from silicon oxide, aluminum oxide, zirconium oxide, or titanium oxide to a dry milling process whereby the pyrogenically produced metal oxide is contacted in an agitating zone with an energy specific force (See Abstract). The highest loadings possible are desired to obtain maximum reinforcement and improved physical properties including improved tensile strength, higher modulus, improved Shore A hardness and higher extrusion rates. The disclosed method provides low structure or destructured pyrogenic hydrophilic and hydrophobic metallic oxides, which allow for higher loadings in formulations whereby excessive viscosity build-up is

Art Unit: 1773

drastically reduced, extrusion rates are significantly increased, and mechanical properties are improved. The method utilizes agitating media (specific density 2.3-8 g/cm.^{sup.3}, examples include stainless or chrome or carbon steel, ceramic, tungsten or zirconium carbide, zirconium oxide or zirconium silicate) so that the metallic oxide agglomerates/aggregates are free to move, collide and impinge upon each other. Media is kept in constant agitation by a stationary shaft (vertical or horizontal) with protruding extensions of a length determined by the size of the vessel or by a rolling drum. Mills such as ball mills, attrition mills, and others known in the art are also used.

Restructuring is also accomplished by intense compression through a roller mechanism, whereby, for example, the silica is compressed upon itself, between roller devices or between roller devices and a stationary vessel wall. An example of these types is a roller mill.

Accordingly, it would have been obvious to one having ordinary skill in the art to structurally modify the silicas taught by Bock et al. using the method taught by Nargiello et al. given that Nargiello et al. specifically state that their method of structurally modifying metal oxides results in metallic oxides which allow for higher loadings in formulations whereby excessive viscosity build-up is drastically reduced, extrusion rates are significantly increased, and mechanical properties are improved. Furthermore, with regards to the limitation that the silicas have a tamped density of 280g/l or less, and the limitations of BET surface area, size of primary particles, pH value, carbon content %, and the DBP value %, the Examiner takes the position that such limitations are inherently present in the silicas taught by Bock et al. given that

Art Unit: 1773

these silicas are obtained from Degussa and are hydrophobic fumed silica treated with dimethyldichlorosilane. In other words, such a property limitation must be inherently present in the silicas taught by Bock given that the structure and chemical composition of the silica as taught by Bock and as claimed in the instant application are identical.

Conclusion

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sheeba Ahmed whose telephone number is (571)272-1504. The examiner can normally be reached on Monday-Friday from 8am to 2pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carol Chaney can be reached on (571)272-1284. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.



Sheeba Ahmed

Art Unit 1773

July 3, 2007